

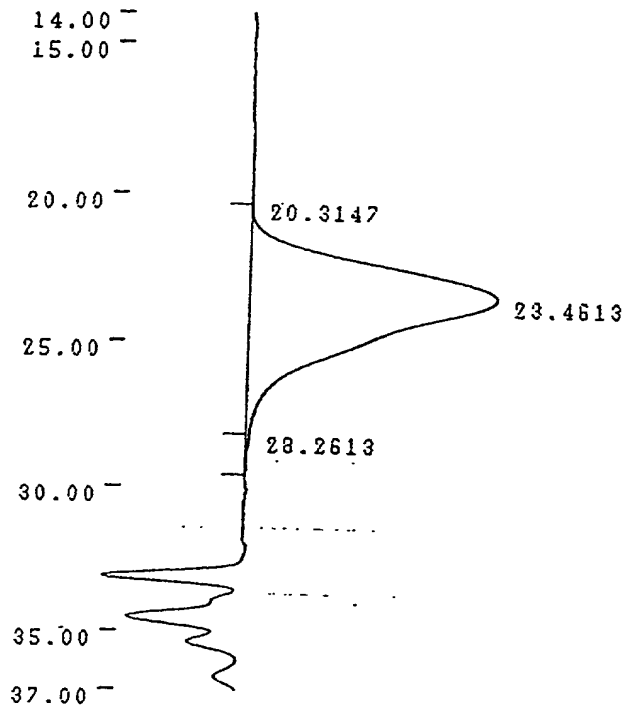
The infrared spectrum of polyacetylene displays characteristic absorption bands. The x-axis represents the wavenumber in cm<sup>-1</sup>, ranging from 4000.0 to 400.0. The y-axis represents the percentage of transmittance (%T), ranging from 5.0 to 101.0. The spectrum shows several sharp, intense absorption peaks, particularly in the fingerprint region (below 1500 cm<sup>-1</sup>) and the C-H stretching region (around 3000 cm<sup>-1</sup>).

Key labeled peaks include:

- 3626 cm<sup>-1</sup>: Broad O-H stretching band.
- 2915 cm<sup>-1</sup>: C-H stretching band.
- 2864 cm<sup>-1</sup>: C-H stretching band.
- 2670 cm<sup>-1</sup>: C-H stretching band.
- 1859 cm<sup>-1</sup>: C=O stretching band.
- 1782 cm<sup>-1</sup>: C=O stretching band.
- 1716 cm<sup>-1</sup>: C=O stretching band.
- 1633 cm<sup>-1</sup>: C=C stretching band.
- 1546 cm<sup>-1</sup>: C=C stretching band.
- 1449 cm<sup>-1</sup>: C=C stretching band.
- 1376 cm<sup>-1</sup>: C=C stretching band.
- 1360 cm<sup>-1</sup>: C=C stretching band.
- 1252 cm<sup>-1</sup>: C=C stretching band.
- 1218 cm<sup>-1</sup>: C=C stretching band.
- 1160 cm<sup>-1</sup>: C=C stretching band.
- 1148 cm<sup>-1</sup>: C=C stretching band.
- 1102 cm<sup>-1</sup>: C=C stretching band.
- 1091 cm<sup>-1</sup>: C=C stretching band.
- 1045 cm<sup>-1</sup>: C=C stretching band.
- 1021 cm<sup>-1</sup>: C=C stretching band.
- 955 cm<sup>-1</sup>: C=C stretching band.
- 929 cm<sup>-1</sup>: C=C stretching band.
- 840 cm<sup>-1</sup>: C=C stretching band.
- 763 cm<sup>-1</sup>: C=C stretching band.
- 696 cm<sup>-1</sup>: C=C stretching band.
- 583 cm<sup>-1</sup>: C=C stretching band.

3626.9	90.1	2915.5	19.9	2864.1	37.9	2670.0	91.1	1859.1	40.8
1782.3	6.3	1716.3	21.7	1633.7	88.8	1506.0	77.5	1449.8	42.9
1376.8	52.2	1360.3	57.1	1252.0	19.5	1218.2	25.2	1148.3	38.4
1102.8	18.0	1091.1	18.3	1045.0	48.6	1021.6	52.9	955.2	30.1
929.9	27.9	885.8	39.9	840.0	20.6	763.8	70.4	696.1	66.9
583.4	84.7								

# FIG. 2



CHANNEL 1  
 METHOD 0,0,4,3

CALIBRATION OFF

NO.	NAME	RET TIME	AREA	MARK	ID#	CONC	CONC %
1		20.3147	96.1	M I	1	96.1277	0.0042
2		23.4613	2280773.8	M I	2	2280773.7500	99.6871
3		28.2613	7062.7	M I	3	7062.6992	0.3087
TOTAL			2287932.8			2287932.5770	100.0000

CALIBRATION DATA

3 ORDER REGRESSION

LOG M =  $a \cdot T^3 + b \cdot T^2 + c \cdot T + d$

a = -6.509859E-004

b = 5.063016E-002

c = -1.552977E+000

d = 2.123975E+001

PEAK TOP RT = 23.5750 : M = 17299  
 MN = 11243  
 MW = 18729 MW/MN = 1.6658  
 MZ = 27080 MZ/MN = 2.4087